

**AMENDMENTS TO THE CLAIMS**

57. (Currently Amended) A transgenic mouse whose genome comprises a homozygous disruption in ~~an~~ the endogenous glucagon receptor gene, wherein ~~where the disruption is homozygous,~~ the transgenic mouse exhibits, relative to a wild-type mouse, a metabolic abnormality or a pancreatic abnormality.
58. (Previously Added) The transgenic mouse of claim 57, wherein the metabolic abnormality comprises a decreased fasting blood glucose level.
59. (Previously Added) The transgenic mouse of claim 58, wherein the metabolic abnormality comprises increased glucose tolerance.
60. (Previously Added) The transgenic mouse of claim 59, wherein the increased glucose tolerance is characterized by a decreased blood glucose level following glucose administration.
61. (Previously Added) The transgenic mouse of claim 57, wherein the metabolic abnormality comprises a decreased fasting insulin level.
62. (Previously Added) The transgenic mouse of claim 57, wherein the metabolic abnormality comprises an increased glucagon level.
63. (Previously Added) The transgenic mouse of claim 57, wherein the metabolic abnormality comprises decreased body weight.
64. (Previously Added) The transgenic mouse of claim 57, wherein the pancreatic abnormality is selected from the group consisting of pancreatic hyperplasia, pancreatic hypertrophy, increased cytoplasmic vacuolization of pancreatic cells, and increased cytoplasmic granularity of pancreatic cells.
65. (Previously Added) The transgenic mouse of claim 57, wherein the pancreatic abnormality comprises a pancreatic adenoma.
66. (Previously Added) The transgenic mouse of claim 57, wherein the pancreatic abnormality comprises an increase in number and size of pancreatic alpha cells.
67. (Previously Added) The transgenic mouse of claim 57, wherein the pancreatic abnormality comprises a decrease in number of pancreatic beta cells.

68. (Previously Added) The transgenic mouse of claim 57, wherein the metabolic abnormality is selected from the group consisting of decreased body fat percentage, decreased body weight and decreased organ weight.
69. (Previously Added) The transgenic mouse of claim 57, wherein the metabolic abnormality comprises decreased body size or dwarfism.
70. (Currently Amended) A transgenic mouse whose genome comprises a homozygous disruption in ~~an~~ the endogenous glucagon receptor gene, wherein ~~where~~ when the transgenic mouse is mated with an opposite gender transgenic mouse whose genome comprises a homozygous disruption in an endogenous glucagon receptor gene, the transgenic mouse exhibits, relative to a wild-type mouse, reduced fertility.
71. (Previously Added) A cell obtained from the transgenic mouse of claim 57.
72. (New) A transgenic mouse whose genome comprises a heterozygous disruption in the endogenous glucagon receptor gene, wherein the transgenic mouse exhibits, relative to a wild-type mouse, a metabolic abnormality or a pancreatic abnormality.
73. (New) The transgenic mouse of claim 72, wherein the metabolic abnormality comprises a decreased fasting blood glucose level.
74. (New) The transgenic mouse of claim 72, wherein the metabolic abnormality comprises increased glucose tolerance.
75. (New) The transgenic mouse of claim 74, wherein the increased glucose tolerance is characterized by a decreased blood glucose level following glucose administration.
76. (New) The transgenic mouse of claim 72, wherein the metabolic abnormality comprises a increased fasting insulin level.
77. (New) The transgenic mouse of claim 72, wherein the metabolic abnormality comprises decreased body weight.
78. (New) The transgenic mouse of claim 72, wherein the pancreatic abnormality is selected from the group consisting of pancreatic hyperplasia, pancreatic hypertrophy, increased cytoplasmic vacuolization of pancreatic cells, and increased cytoplasmic granularity of pancreatic cells.
79. (New) The transgenic mouse of claim 72, wherein the pancreatic abnormality comprises a pancreatic adenoma.
80. (New) The transgenic mouse of claim 72, wherein the pancreatic abnormality comprises an increase in number and size of pancreatic alpha cells.

81. (New) The transgenic mouse of claim 72, wherein the pancreatic abnormality comprises a decrease in number of pancreatic beta cells.
82. (New) The transgenic mouse of claim 72, wherein the metabolic abnormality is selected from the group consisting of decreased body fat percentage, decreased body weight and decreased organ weight.
83. (New) The transgenic mouse of claim 72, wherein the metabolic abnormality comprises decreased body size or dwarfism.
84. (New) A transgenic mouse whose genome comprises a heterozygous disruption in the endogenous glucagon receptor gene, wherein when the transgenic mouse is mated with an opposite gender transgenic mouse whose genome comprises a homozygous disruption in an endogenous glucagon receptor gene, the transgenic mouse exhibits, relative to a wild-type mouse, reduced fertility.
85. (New) A cell obtained from the transgenic mouse of claim 84.